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Identification of House-Hold Animal Diseases from
Symptoms using Named Entity Disambiguation

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ABSTRACT

The accurate prediction of animal diseases is of crucial significance in ensuring the efficiency and affordability of animal healthcare, especially in the context of the excessive veterinary costs. At present, there is a lack of reliable applications accessible to pet owners for the anticipation of diseases in their pets. This research study introduces a natural language processing methodology for the prediction of animal diseases through the analysis of their corresponding symptoms. The methodology employed in this study involves the utilization of named entity disambiguation. This technique leverages the information present in an ontology knowledge base to differentiate and categorize animal diseases based on their associated symptoms. This approach facilitates the generation of more accurate predictions.

The research employs an ontological knowledge base that is structured hierarchically to depict knowledge within a specific discipline, such as animal healthcare. The utilization of a standardized vocabulary comprising of terminologies and their relationships allows the effective prediction and information about treatments. The methodology employed in this study entails the process of associating symptoms expressed in normal language with their corresponding terminologies in the ontology. This process facilitates the determination of the most likely diseases that are consistent with the observed symptoms.

The findings of this research study indicate the accuracy of the suggested methodology in predicting animal diseases. Through the use of natural language processing and ontology-based knowledge representation, a high level of accuracy was attained in the prediction of diseases. The approach we have developed holds significant potential in helping animal healthcare professionals and pet owners in making well-informed decisions regarding animal health. Enhancing disease prediction can lead to improved animal health and reduced cost burden on pet owners.

Keywords: Natural Language Processing, Named Entity Disambiguation, Ontological Knowledge base, Semantic Similarity, SPARQL